

IDE CAMBODIA



Project	SanMark
Organization	iDE
Geography	Cambodia
Areas	Rural
Solution	Individual
Date started	2008
Stage	International scale-up
Scale	~80,000 latrines sold directly, ~380,000 users



Installation of an iDE 'Easy Latrine'. Source : iDE Cambodia

Project description

History of organization

iDE is an international NGO which started its sanitation operations in Cambodia in 2008. After conducting an initial market assessment, it piloted a new latrine design in 2 provinces, the 'Easy Latrine'. In 2009-2011, it refined its road-to-market approach, leveraging local concrete manufacturers to produce and sell 12,000 latrines. In 2011, with technical support from the Water and Sanitation Program of the World Bank, the Bill and Melinda Gates Foundation and the Stone Family Foundation financed a 3-year scale-up program in Cambodia. To date, iDE has expanded the sanitation marketing approach to a number of countries including Bangladesh, Nepal, Zambia, Vietnam, and Ethiopia.

iDE is now focusing on ensuring an efficient supply of latrines, and offering consumer credit (notably thanks to partnerships with two local MFIs). In 2014, it will explore the possibility of introducing smart subsidies to target the poorest. iDE is currently active in 7 of the 21 rural provinces across Cambodia (52 districts in total), where it also runs programs in agriculture extension and clean drinking water.

Value proposition and profile of customers

iDE acts as a market facilitator to help commercialize the 'Easy Latrine' through a network of latrine manufacturers and sales agents, at a retail price ranging from \$40 to 55. This is roughly 20-30% cheaper than a latrine made on the spot by a local mason, sourcing materials from a

number of sources. The Easy Latrine uses thinner rings, removable inner molds (accelerating ring production), drier concrete mix (using rice husk ash) and includes a prefabricated chamber box (cheaper than brick and mortar hand-made constructions). The end product is an easy-to-install, modular, aspirational product for rural households, delivered to their door step. iDE is also currently field-testing an aspirational shelter product.

Hence, iDE promotes a product that presents a number of advantages over alternative solutions. The latrine is:

- easy to build (do-it-yourself, without the help of a mason)
- easy to buy (one-stop-shop, affordable, delivered at home)
- easy to use (pour-flush latrine with ceramic slab, easy to switch to second offset pit and can be combined with different shelters)

iDE works in villages where the population lives mostly off farming. In rural Cambodia, open defecation is prevalent (63% national average) with wide variations between areas. According to anecdotal evidence of one area where iDE operate, monthly household net cash income would approximately range from ~25-30\$ for the 20% most vulnerable without much or any land, to \$50-75 for the 50% of families cultivating their own plots, and >\$75-100 for those 20% families who have a member earning cash income. Across the 7 project provinces, 16% of iDE customers are categorized as poor to very poor on average.

Value chain



Manufacturing

iDE works with existing local hardware shops that sell construction materials and have experience with construction and concrete production, including concrete rings. To identify such businesses, iDE invites local shops at provincial information events. Interested candidates for the program need to fulfill a number of criteria before they can join. These include: current capacity in or willingness to invest in molds, labor, land and transport. In addition to this, selected producers must own a truck to do the deliveries. Once selected, businesses receive intensive training and coaching (3.5 days/week for 3 months) on how to ensure reliable and fast delivery of orders and how to market their products via sales agents. A key part of the training includes technical training geared towards improving their production processes. Once the producer is enrolled, iDE's Monitoring & Evaluation team visits each entrepreneur every two weeks to record their sales. This team also does spot tracking to ensure accuracy of data.

iDE counted ~120 active producers as of end 2013, of which ~110 would sell more than 100 latrines a year. In 2012, it started phasing out the less active manufacturers (i.e. producing less than 12 latrines/month) to focus operations and improve supply, resulting in 30% more turnover among them every year. There are in average 2-3 producers per district (i.e. each of them covers typically ~25 villages).

iDE initially tried to leverage the producers to promote the latrines, however this proved difficult as few of them were willing and able to manage mobile sales agents – as they were mostly used to running a small production operation, waiting for customers to come and order. As a result, iDE started engaging more actively with independent sales agents.

The producers' network is managed by iDE Business Development Counselors (BDC). BDCs maintain limited relationships with manufacturers—which are few and have little incentives to develop the more committed or able suppliers further—as they are heavily incentivized on sales (therefore focusing on coaching their sales agents) since iDE shifted the focus away from developing manufacturers to drive sales.

BDCs have a university degree in marketing, business management or other relevant areas, combined with over three years work experience. To be considered, they must have a motorcycle and mobile phone for daily travel within their assigned area.

Marketing & sales strategy and organization

Sales agents are independent entrepreneurs or local officials who sell latrines on commission. To identify potential sales agents, iDE advertises a position through word-of-mouth and gathers recommendations from local authorities. Producers are given the opportunity to participate in the selection process, though few choose to. The vast majority of sales agents are linked directly with a specific producer, unless they are able to cover larger areas. Their sales are also recorded and independently verified. Out of the 400 sales agents attached to the ~130 active latrine manufacturers in 2013, iDE counted ~130 active sales agents (or about 1 per latrine producer, covering about 25 villages), on which it focuses most of its support.

Sales agents conduct direct sales through either group sales meetings or door-to-door sales. For group sales meetings, the sales agent usually enlists the support of the village chief to help mobilize 15-30 villagers. The village chief usually receives

\$0.5 for his efforts. Usually 3-5 villagers decide to buy out of the group. Close rates significantly increase when credit is offered. In a randomized controlled trial, iDE found that credit increases sales by 400%. After a group sales meeting, sales agents often follow-up with those who did not buy or did not come through door-to-door sales. iDE has tested radio marketing campaigns in the past, but stopped doing it as it found that below-the-line activities were more effective.

During the 30 minute group sales presentation, the sales agent uses a 'site seller', a selling tool that is a bound set of posters to help them remember the talking points. The sales agent often invites testimonials from existing latrine owners, seek to create shame and dissatisfaction with open defecation, and finally promote the latrines. The selling is based on the CLEAR™ methodology. It is a human-centered approach and stands for Connect – Learn – Educate – Ask - Resolve. Rather than merely selling the product, they seek to understand the problems the audience is facing and position the product as a solution to those problems.

Once the sale is made, the sales agent transmits the order to the producer. The sales agent's commission is paid directly by the producers.

The sales agents are managed by iDE Business Development Coordinators (BDCs), who train and coach them. BDCs receive training by senior management and Regional Managers through in-classroom training and in-field coaching. BDC's remuneration is based on a high share of variables – mostly linked to sales level. As a result, they may tend to focus on the best sales agents in their pool.

Installation

Delivery is usually organized by the latrine producers and included in the price. The model for the latrine installation varies. Some latrine producers partner with local masons and coordinate delivery and installation; others use their own in-house laborers, but this reduces time available for production. When installation is not provided, households have the choice between doing it themselves (based on easy-to-understand instructions), or call for the services of a local mason. While few masons knew how to install the latrine properly at the start of the program, this issue is gradually improving as the Easy Latrine becomes more mainstream.

Cash/payment collection

For clients buying cash, it is collected upon delivery. For 9 months, iDE has been collaborating with 2 local MFIs (Vision Fund, Kredit) in 2 provinces. In this case, loan repayment collection is done by MFI credit officers. However, branch repayments do not seem to be a viable option and demand increases when repayments can be made locally. Hence, the MFIs increasingly rely on village officials to do the cash collection.

Maintenance and cleaning

No maintenance is required. Cleaning is made easy as the slabs are covered with tiles, rather than cement.

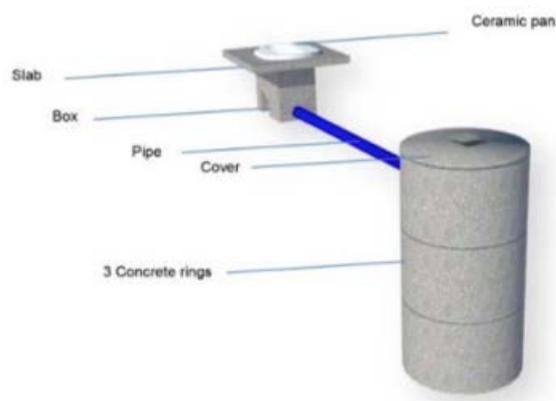
Waste storage and collection

Most households buy 3 rings (up to 4 if large family). The average pit depth is 1.2 m. An off-set pit can easily be added to the latrine design.

Waste treatment, disposal and recovery

Given the quality of the soil, pit latrines fill up slowly (7-10 years). When full, the owners typically empty the latrine themselves manually and spread the waste onto their fields (hiring specialized labor costs ~\$40, i.e. the cost of the latrine). iDE is currently looking into using lime as a way to treat the waste for hygienic household handling.

Technology



One-pit Easy Latrine model

Description of toilet-related technology

Key features:

- **Cost:** The toilet production cost is estimated at ~\$30.
- **Design:** The latrines include a squat pan, a chamber box with a PVC pipe connected to 3 concrete stacked pits. The design was supported by IDEO. All elements, except the pipe and slab are made of concrete. The slab is covered

with ceramic tiles and includes an imported ceramic pan.

- **Durability:** Ranges depending on number of users and soil conditions, but field experience shows up to 20 years.
- **Water and energy efficiency:** Pour-flush toilets (1.5-3 liters per flush).
- **Malodors and safety:** Malodor and safety issues are very limited, given the design of the slab and use of the goose neck, which ensures a water seal and reduces smells.
- **Waste storage:** Waste is stored in the pit. Given the nature of the soil, the rings are not cemented, and waste is slowly filtered in the ground.
- **Potential and limitations:** Most customers perceive that the latrine itself is only a part of the toilet, and invest considerable sums for a concrete shelter. iDE is exploring the possibility of developing low-cost, pre-fabricated concrete shelters.

Social impact

- **Scale and penetration:** From the beginning of the scale-up program in 2011, iDE facilitated the sale of over 80,000 toilets, serving an estimated 380,000 people in 3,300 villages. This translates into a penetration rate of ~ 12% in the project provinces (for latrines installed by iDE supported manufacturers), or an actual pour-flush latrine coverage of 22% to 57% (with an average 37%), when taking into account existing latrines. Penetration rates have picked up dramatically since 2009: about 1% a year in 2010, 3% in 2012, and 7% in 2013. The team estimates that the maximum additional penetration it could drive per year hovers around 13%. In addition to the sales made by businesses trained by iDE, iDE noticed that the market experienced a growth of activity via businesses joining the latrine market without any training by iDE. Today, iDE has measured a 'leverage ratio' of 1:1 on average across its area of operation. This means that for every latrine sold by an iDE-trained business, another latrine is sold by a non-iDE trained business who likely decided to join the market due to observations of its profitability. The current sales rate is of 7500 latrines/month. iDE estimates it will plateau at around 8000 given the current level of resources deployed.
- **Acceptance and usage:** Most customers were practicing open defecation before buying their latrine. The program allowed them to access a quality, off-the-shelf product, delivered to their door step, 30% cheaper than using the services of a mason. However, only 58% of latrines were installed 6 to 9 months after purchase. iDE believes that this delay is due to a variety of factors, including the lack of a packaged shelter product and its financing (iDE has plans to develop both aspects). In addition, the MFI pilot showed that financing the latrine shelter would likely

increase installation and adoption rates.

- **Customer satisfaction:** Satisfaction is assessed through focus group discussions. The main object of complaint is the lack of installation services.
- **Evidence of impact on health:** N/A
- **Promotion of related behaviors:** Hygiene and hand-washing are not actively promoted. However, iDE is exploring the possibility of combining its household water filter promotion program with its sanitation activities. It is also developing a hand-washing device.
- **Waste collection and disposal strategy:** iDE is exploring the use of hydrated lime to make household waste collection more hygienic.

Economic sustainability

End consumers

- **Affordability for consumers:** The observed latrine price is \$40-55, to which an optimal \$10-20 is added for digging and sometimes installation. The biggest expense though comes with building the shelter (>\$200), as 80% of families prefer a concrete one. In the areas where iDE operates, the latrine price corresponds to 0.5-2 month cash income for a family. Rural sanitation seems to be an 'all or nothing game' in Cambodia. Households choose between open defecation and improved sanitation (with a durable shelter). Very few households go for an intermediary step of 'unimproved sanitation'.
- **End consumer financing:** iDE is piloting sales with consumer credit in two provinces, in partnership with two local MFIs. Cumulative sales done through MFIs amounted to ~2000 latrines from January to November 2013. The MFIs provide 4 to 12-months, group-liability and individual loans for the latrine itself, with a 2.6-2.8% monthly interest rate. MFIs require a \$4.5 non-refundable down-payment from customers. The loan amount is paid directly to the latrine manufacturer by the MFI. iDE also experimented with offering a shelter loan, but this was discontinued for a variety of reasons, the main one being that no packaged shelter was then existent.

In a randomized controlled trial, when offered credit at sales events, uptake increased by 400% (i.e. close to 50% of villagers attending the sales event decide to purchase a latrine), pointing at the fact that credit is a way to have households prioritize some expenses when the 'opportunity to borrow and buy' is there. The 'one-time-offer' factor also explains some of the increase in sales, again driven by the same opportunistic nature of the purchase. As a result, the sale/credit offer needs to be closed shortly after the household expresses interest, for risk of losing many initial commitments. Interestingly, credit sales do not 'cannibalize'

cash sales, as households prefer not contracting debts if they do not have to.

On the other hand, the MFIs' operating costs decreased dramatically as field operations improved (down to 1-3% of gross loan portfolio). MFIs recorded no defaults or very late payments. The majority of clients were new (60-80%), making sanitation a good source of customer acquisition.

Last but not least, for iDE, financing decreased marketing and sales cost per latrine by 70% as the 'hit rate' per sales event went up significantly.

Despite these encouraging results, the roll-out of the credit scheme will bring a number of questions, notably:

- in which district will the MFIs be able to deploy credit officers to ensure thorough processing of the loans (during the pilot, participation of loan officers to the sales events can be challenging, resulting in iDE staff possibly processing the necessary documents on their behalf).
- given the range of socially-beneficial products they could be financing, how long will they include latrines in their consumption lending program (capped at 15% of their portfolio).

Other iDE studies indicate that installment payments could also be an alternative strategy to increase likelihood of purchases. When households can pay in smaller, multiple payments (rather than a one-time large payment) they feel the purchase is within reach. This strategy could be particularly relevant in countries like Cambodia, where there is an 'all-or-nothing' attitude, i.e. as long as households do not have money to build a nice shelter, they will forego buying the latrine altogether.

Upstream organization

- Main organization:
 - » *iDE does not generate any revenues for its organization.* The current average program cost per latrine installed is about \$35. It is currently exploring options to further evolve the model, including a social business.
 - » *iDE's work force in the field consists mostly of 28 district-level BDCs.* The BDCs train, coach and monitor the latrine producers and sales agents, help liaise with local authorities and gather data, as well as 4 engineers who train the producers on production techniques. BDCs earn \$350/month plus a substantial % bonus depending on sales performance. There is limited turnover among BDCs (only a few a year leave), which can be explained by the high salary levels (base and variable), and the fact that half of the variable salary is locked into an account which is paid only at the end of the project. In addition, there are 19 M&E research assistants who monitor performance

and conduct research. The BDCs are supervised by 4 regional managers, 1 sales manager and 1 MFI manager. All employees, from top to bottom, earn a base salary as well as bonuses based on quarterly targets which evolve regularly depending on the project lifecycle.

- Non-staff actors:
 - » *Latrine manufacturers:* iDE provides them with training and business support. Manufacturers earn approximately \$5 to \$10 per latrine (10-20% margin). Most of them sold 2-3 latrines per month prior to the program and now sell an average of 12 latrines per month for the better performing ones, which is estimated to be about 20-30% additional profit on top of their other product lines for the larger/more diversified ones. The initial investment to start a sanitation business is around \$3,000 (including \$2,000 for a delivery vehicle, \$440 for concrete molds and \$650 for raw materials).
 - » *Sales agents are incentivized through a small commission.* Commissions range from \$2.5 to \$5 (directly negotiated with the producer). Given that sales agents sell between 5-25 latrines per month, this may represent an interesting, though limited, additional income opportunity for a part-time job.

Innovations

- Complete, off-the-shelf, home-delivered sanitation solution with transparent pricing and maximum convenience.
- iDE rolls out its operations by adopting a face-to-face, human-centered approach: the products and processes are developed from the users' perspective, and are therefore better adapted to local conditions.

Remaining hurdles and bottlenecks

- While the focus has shifted from latrine producers to sales agents, it remains to be seen whether the latter are better suited to sustainably create demand, if and when iDE would limit its involvement. iDE is exploring whether it should transform into a social enterprise to continue its activities until 100% coverage is achieved.
- While the MFI pilots proved promising, iDE still needs to find a way to scale-up these partnerships and solve current operational issues.
- Most households prefer a concrete shelter for their toilet, but these are significantly more expensive than the latrine itself (usually >\$200). As a result, households often wait to be able to afford the shelter before installing the latrine to avoid constructing a temporary shelter. iDE is currently testing a pre-packaged, concrete shelter that is cheaper than existing market options.

Contact information

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Appendices

Sources: Project visit on 16 and 17th of December 2013; www.ide-cambodia.org; www.makingsanitationeasy.com

Exchange rate: 1 USD = 4000 KHR
